

CLAIMS

1. A distributed messaging system for transmitting topical data messages from data publishers to data consumers comprising:

- a message topic server;
- a plurality of message routers; and,
- a plurality of message adapters;

each data publisher communicatively linked to a message adapter, each data consumer communicatively linked to a message adapter, each message adapter communicatively linked to a message router and each message router communicatively linked to said message topic server;

said message topic server having a list of message topics to which data consumers can subscribe and a list of data publishers able to publish data messages consonant with said message topics;

said message routers subscribing to selected message topics in said list in said message topic server on behalf of requesting data consumers;

said message routers registering message topics with said message topic server on behalf of requesting data publishers which publish data messages consonant with said registered message topics;

said message routers transmitting and receiving data messages to and from respective data consumers and data publishers according to said subscriptions;

said transmitted and received data messages transmitted and received to and from said respective data consumers and data publishers through message adapters communicatively linked to said respective data consumers and data producers.

2. A distributed messaging method for publishing topical data messages in a communications network comprising:

receiving in a first message router from a data consumer a request to subscribe to a message topic;

responsive to receiving said subscription request, retrieving from a message topic server a location of a second message router communicatively linked to a data publisher able to provide data messages consonant with said requested message topic; establishing an interprocess communications connection between said first and second message routers; and, transmitting data messages from said data publisher over said established interprocess communications link to said data consumer.

3. The method of claim 2, wherein said step of establishing an interprocess communications connection comprises establishing a multicast data communications link between said first and second message routers.

4. The method of claim 3, wherein said transmitting step comprises multicasting data messages from said data publisher over said multicast data communications link to said data consumer.

5. The method of claim 2, further comprising:
detecting a communications interruption;
responsive to detecting said interruption, terminating said subscription, retrieving from said message topic server a location of a message router communicatively linked to a data publisher able to resume said providing of said data messages consonant with said requested message topic, establishing an interprocess communications connection between said first message router and said message router communicatively linked to a data publisher able to resume said providing of said data messages, and resuming said transmission of said data messages from said data publisher over said established interprocess communications connection between said first message router and said message router communicatively linked to a data publisher able to resume said providing of said data messages.

13 6. The method of claim 5, wherein said detecting step comprises:
 14 detecting a communications break between said data publisher and said second
 15 router.

1 7. The method of claim 5, wherein said detecting step comprises:
 2 detecting a communications break between said first and second routers.

1 8. The method of claim 5, wherein said detecting step comprises:
 2 detecting said data publisher terminating publication of said requested message
 3 topic.

1 9. The method of claim 5, wherein said step of establishing an interprocess
 2 communications connection between said first message router and said message
 3 router communicatively linked to a data publisher able to resume said providing of said
 4 data messages comprises re-establishing an interprocess communications connection
 5 between said first and second message routers.

1 10. A machine readable storage, having stored thereon a computer program for
 2 publishing topical data messages in a communications network, said computer program
 3 having a plurality of code sections executable by a machine for causing the machine to
 4 perform the steps of:

5 receiving in a first message router from a data consumer a request to subscribe
 6 to a message topic;

7 responsive to receiving said subscription request, retrieving from a message
 8 topic server a location of a second message router communicatively linked to a data
 9 publisher able to provide data messages consonant with said requested message topic;

10 establishing an interprocess communications connection between said first and
 11 second message routers; and,

12 transmitting data messages from said data publisher over said established
13 interprocess communications link to said data consumer.

1 11. The machine readable storage of claim 10, wherein said step of establishing an
2 interprocess communications connection comprises establishing a multicast data
3 communications link between said first and second message routers.

1 12. The machine readable storage of claim 11, wherein said transmitting step
2 comprises multicasting data messages from said data publisher over said multicast
3 data communications link to said data consumer.

1 13. The machine readable storage of claim 10, further comprising:
2 detecting a communications interruption;
3 responsive to detecting said interruption, terminating said subscription, retrieving
4 from said message topic server a location of a message router communicatively linked
5 to a data publisher able to resume said providing of said data messages consonant with
6 said requested message topic, establishing an interprocess communications connection
7 between said first message router and said message router communicatively linked to a
8 data publisher able to resume said providing of said data messages, and resuming said
9 transmission of said data messages from said data publisher over said established
10 interprocess communications connection between said first message router and said
11 message router communicatively linked to a data publisher able to resume said
12 providing of said data messages.

1 14. The machine readable storage of claim 13, wherein said detecting step
2 comprises:
3 detecting a communications break between said data publisher and said second
4 router.

5 15. The machine readable storage of claim 13, wherein said detecting step
6 comprises:
7 detecting a communications break between said first and second routers.

1 16. The machine readable storage of claim 13, wherein said detecting step
2 comprises:
3 detecting said data publisher terminating publication of said requested message
4 topic.

1 17. The machine readable storage of claim 13, wherein said step of establishing an
2 interprocess communications connection between said first message router and said
3 message router communicatively linked to a data publisher able to resume said
4 providing of said data messages comprises re-establishing an interprocess
5 communications connection between said first and second message routers.